THE CLAIMS

What is claimed is:

1. An isolated nucleic acid molecule derived from coffee encoding at least one enzyme involved in the hydrolysis of polysaccharides comprising pure or branched mannan molecules linked to each other via a β (1→4) linkage.

2. A fragment of the isolated nucleic acid molecule according to Claim 1, encoding at least one endo-β-mannanase.

3. The fragment of nucleic acid molecule according to Claim 2, characterized in that the endo-β-mannanase comprises at least one of the following sequences: SEQ ID NO.:2, SEQ ID NO.:8, SEQ ID NO.:9 or SEQ ID NO.:10.

4. A fragment of an isolated nucleic acid molecule derived from coffee encoding at least one enzyme involved in the hydrolysis of polysaccharides comprising pure or branched mannan molecules linked to each other via a β (1→4) linkage, comprising the nucleic acid sequence SEQ ID NO.:1.

5. The fragment of nucleic acid molecule according to Claim 4, comprising nucleotides 11 to 1294 of the nucleic acid sequence SEQ ID NO.:1.

6. An isolated nucleic acid molecule which is homologous to or hybridizes to nucleic acid sequence SEQ ID NO.:1 or hybridizes to a fragment of nucleic acid sequence SEQ ID NO.:1.

7. A recombinant vector comprising an isolated nucleic acid molecule that is nucleic acid sequence SEQ ID NO.:1, a molecule which is homologous to or hybridizes to nucleic acid sequence SEQ ID NO.:1 or a

molecule that hybridizes to a fragment of nucleic acid sequence SEQ ID NO.:1.

8. A protein derived from a coffee bean, which is encoded by a coffee gene and is involved in the hydrolysis of polysaccharides comprising a pure or branched mannan molecules linked to each other via a β (1→4) linkage, and which has the amino acid sequence SEQ ID NO.:2 or any amino acid sequence homologous to the latter, said protein comprising one of the following sequences: SEQ ID NO.:8, SEQ ID NO.:9 or SEQ ID NO.:10.

9. A plant cell comprising an isolated nucleic acid molecule, or fragment thereof, encoding at least one enzyme involved in the hydrolysis of polysaccharides comprising a pure or branched mannan molecules linked to each other via a β (1→4) linkage, wherein said isolated nucleic acid molecule, or fragment thereof is integrated into the plant cell genome.

10. The plant cell according to Claim 9, comprising the isolated nucleic acid molecule that is nucleic acid sequence SEQ ID NO.:1, a molecule which is homologous to or hybridizes to nucleic acid sequence SEQ ID NO.:1 or a molecule that hybridizes to a fragment of nucleic acid sequence SEQ ID NO.:1.

11. The plant cell according to Claim 9, specifically as a coffee cell.

12. A plant or seed comprising plant cells according to Claim 9.

13. A microorganism comprising an isolated nucleic acid molecule, or fragment thereof, encoding at least one enzyme involved in the hydrolysis of polysaccharides comprising pure or branched mannan

molecules linked to each other via a β (1→4) linkage, wherein said isolated nucleic acid molecule, or fragment thereof is integrated into the genome or plasmid of said microorganism.

14. The microorganism according to Claim 14, comprising the isolated nucleic acid molecule that is nucleic acid sequence SEQ ID NO.:1, a molecule which is homologous to or hybridizes to nucleic acid sequence SEQ ID NO.:1 or a molecule that hybridizes to a fragment of nucleic acid sequence SEQ ID NO.:1.

15. A Dietary, cosmetic or pharmaceutical composition that includes a fragment according to claim 1, or an isolated nucleic acid molecule that is nucleic acid sequence SEQ ID NO.:1, a molecule which is homologous to or hybridizes to nucleic acid sequence SEQ ID NO.:1 or a molecule that hybridizes to a fragment of nucleic acid sequence SEQ ID NO.:1.

16. A Dietary, cosmetic or pharmaceutical composition that includes a protein according to Claim 8.

17. A Process for treating coffee beans, in which all or part of the protein according to Claim 9 is used to treat the coffee beans.

18. A method for detecting, *in vitro*, or modifying, *in vivo*, at least one coffee gene encoding at least one endo-β-mannanase utilizing all or part of fragments of the isolated nucleic acid molecules that is nucleic acid sequence SEQ ID NO.:1, a molecule which is homologous to or hybridizes to nucleic acid sequence SEQ ID NO.:1 or a molecule that hybridizes to a fragment of nucleic acid sequence SEQ ID NO.:1, wherein said isolated nucleic acid molecule is used as a primer for carrying out a PCR or as a probe.